PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*: 04 -07- 2005

Applicant's or agent's file reference: E38610 JFL/J

FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/NO2005/000083	07.03.2005	11.03.2004

International Patent Classification (IPC) or both national classification and IPC
B65G47/40, B07C5/34

Applicant
Tomra Systems ASA et al

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [x] Box No. VII Certain defects in the international application
- [x] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language, _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-33	YES
	Claims		NO
Inventive step (IS)	Claims	13, 28	YES
	Claims	1-12, 14-27, 29-33	NO
Industrial applicability (IA)	Claims	1-33	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following document/documents:

D1: EP 0 212 858 A1
D2: DE 43 29 193 A1
D3: US 5 628 08 A
D4: JP 7-185 476 A
D5: JP 10-000 434 A

The application pertains to a method and a device for individually transporting articles of different type, size, weight, material or shape, to one delivery location of a plurality of delivery locations that is designated for the respective article. This is achieved using an endless bucket conveyer where articles are placed one by one in the buckets and thus transferred to its designated unloading station. Prior to being placed in the bucket the article is identified at least as regards its material type.

D1 is considered to be the closest prior art. It shows a device and method for individually transporting articles to different unloading stations. This is done by placing the articles in respective transport containers and causing a respective article at a desired, respective delivery location to be transferred from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article. The transport container at the designated delivery location being caused to discharge the article from the container under the effect gravity or with the aid of a separate controlled actuating means (abstract and column 2 lines 41-47).

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Box No. VII Certain defects in the international application

The following defects in the form or content of the international application have been noted:

Claims 12 and 27 depict that the transport containers are prevented from rotating in the horizontal portion of the path. This is inconsistent with both figures 1-3 and lines 29-31 on page 5 in the description. It is assumed that the prevention from rotating takes place in the vertical part of the path as described in the mentioned passage of the description and not contradicted by said figures. When assessing claims 12 and 27 it has thus been assumed that the transport containers are prevented from rotating when travelling in the vertical portions of the path and not when travelling in the horizontal portions.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

The features of the preambles of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

References to the drawings in the description are scarce. This makes it difficult to find the numbered features. The applicant is therefore requested to amend the description so that the description always makes clear on which drawing the mentioned feature is present.

The inversion mentioned in claim 3 is not present in the referred claim 1. The correct reference should be to claim 2.

Claims 7 and 8 mention the movement along a circular path. This path is first mentioned in claim 6. The former claims should thus refer to claim 6 instead of "one or more of the preceding claims".

The feature of claim 22, that the transport containers are to move in an endless, moving row, is already present in claim 17 to which claim 22 refers. Hence claim 22 does not contribute to the invention. The applicant is therefore asked to remove this claim from the application.

Claim 31 refers to "any of the preceding claims". However, being a claim to a device, it cannot refer to any of claims 1-16 since these are claims for a method.

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of: V

D1 differs from what is claimed in claim 1 in that the articles are not expressly identified prior to being put into the container. The articles must obviously be identified if they are to be discharged at the correct unloading station. The device and method described in D1 is not limited to a specific field of use. It can however be used in an application requiring several unloading stations (see column 2 lines 41-47). Identifying articles on a conveyor is widely known in the art for example in D2-D5. The skilled person reading D1 understands that some sort of identification is necessary in order to make use of several unloading stations. He is free to choose which criteria to use for this identification as well as the technical equipment most suited. To identify the material of the transported articles is therefore not considered inventive. Claim 1 consequently lacks inventive step.

D1 further shows that the transport containers can be buckets which can be inverted about an axis of rotation so as to discharge the article under the effect of gravity (column 4 lines 21-38). The feature claimed in claim 2 is thus anticipated by D1 and the claim in its entirety lacks inventive step.

This inversion is only described in D1 to be about 125°. Claim 3 claims an inversion of 360°. If a bucket has been described to be emptied by turning it upside down, it does not matter how large the rotation is. Subject-matter claimed in claim 3 therefore lacks inventive step.

Claims 4 and 5 describe that the container is turned about two axially aligned bearing pins and that this rotation is actuated controllably by force. These features are also described in D1 (column 3 lines 23-28 and figure 1). These claims in their entirety thus lack inventive step.

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Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of: V

D1 further describe how the containers are places on a fixed distance from each other and moved on an endless path comprising both horizontal and vertical portions (see figure 4). The containers are moved along the path using a pair of chains. The containers are attached to holders in the chains via bearing pins (see figure 7 and column 5 lines 1-9). The features claimed in claims 6-11 are hence known from D1 and the claims thus lack inventive step.

Claim 12 explicitly prevents rotation of the containers when in the vertical portions of the path. D1 describes that the buckets are to be kept horizontal at all times (see abstract). The skilled man attempting to keep the containers horizontal at all times will do this by preventing rotation in some portions of the path. Claim 12 thus lacks inventive step.

Claim 14 states that the containers are to be moved with constant speed along the path. D1 does not expressly mention speed. The skilled man reading D1 will however understand that since only one drive-wheel is used to drive the chains, the speed will be the same along the path (see column 3 lines 41-43). Claim 14 thus lacks inventive step.

Claims 15 and 16 depict that the articles are empty packaging units and that a television camera is used to determine at leas one of a number of features. As mentioned above, D1 describes a general system for transporting articles in an endless bucket conveyor. The skilled person is thus free to chose which articles to be conveyed. Sorting empty packaging units by identifying them on a conveyor and discharging them at the appropriate discharge station is previously known from D2-D5. The skilled man applying the method and device shown in D1 to empty packaging units would thus not be exercising any inventive skill. Claims 15-16 therefore lack inventive step.

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Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
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Subject-matter claimed in claim 17 also differ from D1 in that D1 does not explicitly identify the articles prior to placing them in containers. Following the reasoning above, this difference is not considered to provide the claim with inventive character. Claim 17 therefore also lacks inventive step.

Claims 18-27 and 29-33 are considered to lack inventive step on the same ground as claims 2-12 and 14-16.

All claims are considered to have industrial applicability.